
Comments on Proposed
Home Performance with ENERGY STAR Program Revisions

Conservation Services Group
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submitted by:

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Overview

This set of comments from Conservation Services Group is in response to EPA and DOE's request for feedback on the proposed Draft Version 01 documents related to the Home Performance with ENERGY STAR program (HPwES.) Our comments are presented in sections that parallel the draft documents. Where specific language is offered, additions are indicated by underline and ~~deletions by strikethrough~~. We provide some general comments about each document, and also comments about specific sections and subsections, which are identified in the alphanumeric nomenclature of the draft. The majority of our comments relate to the national model of HPwES. However, CSG also administers a utility-sponsored Home Performance program in Massachusetts that operates under a unique model; some comments relate to that program specifically, and are indicated as such.

P1 Proposed Changes to HPwES QA Requirements

General

Contractor eligibility should require at least BPI Certification. Accreditation is a useful requirement *only if there is no other (effective) means of enforcing contractor compliance* with Program rules.

On page 2 of the document, under the "proposed changes" section:

- Bullet one ("All participating contractor jobs must be reported to the Program Sponsor") should be changed to clarify that it applies only to jobs performed in association with the sponsor's program. A participating contractor might do non-program work which the sponsor has no responsibility for, and which the contractor should not be obliged to report to the program.
- Is bullet two (regarding review of all job reports by the program sponsor) meant to capture particularly high risk items as part of the "risk-based" approach mentioned in the Background section? Who is meant to establish the protocol that identifies questionable items – EPA or the program sponsor? Job report reviews should include missed opportunities (e.g. – Why were windows installed rather than wall insulation?) and verification of program compliance.
- Bullet three addresses a customer satisfaction survey. If a customer satisfaction survey is conducted, it should obtain answers to the following:
 - Did the contractor do a full assessment?
 - What was the participant's view of the quality of work?
 - Did the contractor recommend a comprehensive work scope?
 - Did the contractor describe the Program completely?
 - Did the contractor properly represent himself as a "participating contractor" or sponsor's preferred contractor?
 - Did the contractor describe the benefits of the "whole house" approach?
 - Did the participant receive the CHA Report?

That said, CSG performed a customer satisfaction survey through our Massachusetts program several years ago. In that effort, an overwhelming majority of completed surveys came back with "excellent" ratings and there were very few issues or concerns reported. The value of this feedback did not justify continuing the costs for developing, distributing, collecting, and tabulating the data.

- Bullet four (on-site job inspections): An on-site inspection target of 3% seems too low, and we question its value. The 15% rate that we use in our New York program might be higher than other programs can support, but we believe that it means that virtually nothing "slips through" out QA net. We feel that that the minimum on-site inspection rate should be 5%, and that 10% would make the program robust.

P2 Proposed Minimum HPwES Sponsor Reporting Requirements

We generally support the simplification in minimum reporting requirements to capture only job activity information. Given the simplification, we recommend that programs which fail to report should be considered inactive. However, we are concerned about a possible unintended consequence of the proposed requirement (on page 2) for "active participation from at least 3 contractors/consultants" in order for a program to remain an active sponsor, particularly as it pertains to the unique program that we deliver in Massachusetts. In that program, CSG is responsible for meeting the BPI technical standards using sub-contractors, but we are the *only* entity that has any contractual relationship with the utility sponsor. Work done by heating contractors for customers doesn't flow directly through the program; rebates are provided based on minimum efficiency requirements after eligibility is determined through our program delivery. In a case like this, would the program be considered to have fewer than three contractors? If so, could there be a volume-of-work threshold as an alternative to the number of contractors?

P3 Proposed Guidelines for a HPwES Comprehensive Home Assessment

General

- We believe that the comprehensive assessment should be directly associated with the ENERGY STAR brand by including the brand name in the title. Something like "ENERGY STAR Comprehensive Home Assessment" would make that immediate connection.
- The individual programs should have free reign on the format of the report to allow for unique, creative, and effective ways of presenting the information.
- The CHA report should reflect the quality of the assessment process, and should include:
 - Details from the inspection; what's working and what's not
 - Addressing homeowner concerns/issues
 - Proposed measures and improvements
 - Description of health & safety issues
 - Factors affecting structural durability and the importance of addressing them, even if there is little/no energy savings or payback.
- If the scope of work is a gut remodel, that should exempt the assessor from going through much of a detailed list. (Why assess things will be thrown away?)
- We also have a question that need to be clarified: What will be the final requirements for information that must be provided to the customer, and when must it be reported? For example: with reference to reporting non-energy benefits, is this

covered by the Certificate of Completion document or would this need to be part of an initial summary report or proposal?

A. Homeowner Interview

- 2)d) Swimming pool. Additional considerations should include:
 - If heated, what is the heating source? (e.g. - heat pump, solar, gas)
 - Is the pool indoors or outdoors?
 - If indoors, what is the ventilation strategy/design? Does it prevent positive pressure relative to the inhabited space?
- 3)f) CO and smoke alarms: The assessor should be aware of and inform the homeowner about local or state requirements for presence and placement of alarms.

B. Utility Bill Review & Analysis

- Utility Bill Review/Analysis should be strongly recommended wherever possible. We agree that this is an important aspect of any assessment as it is the only true measure of actual energy usage that helps quantify the opportunity for, and magnitude of, available savings. Analyses which rely solely on modeled consumption are only as good as the inputs, and subject to gaming. Subtle input discrepancies (e.g. – insulation rating, HVAC system efficiencies) can result in extremely high modeled energy usage. If nothing else, we need to avoid the embarrassing circumstance of estimating savings that are higher than actual consumption. We suggest that this utility bill analysis be strongly recommended, but from a practical perspective, not made a requirement. While past usage is useful when available, it should not become a requirement because data may be unavailable or of limited value due to changes in household size, occupancy patterns, additions, other improvements, etc. Also, when possible, utility bill analysis should be completed before the initial visit.
- Alternative approaches to bill disaggregation should also be considered. Rather than focusing on bill disaggregation, the house could be benchmarked against others using a reasonable metric such as energy intensity (Btu/sf/DD.) This might require collecting additional data like occupancy and area, but it would provide the homeowner with a good comparison as a motivation for improvement.

D. Building Envelope Inspection

- 3)a) When determining the thermal boundary, also identify thermal bridges via exposed framing (e.g. – wall edges, joist ends, steel beams).
- 3)b) Make reference to BPI standards for rating the estimated R-value of the installed insulation material.
- 3)c)iii) Window inspection should not include recording the presence of lead paint; this is a work scope issue if the windows are going to be changed, not an assessment issue. Also, contractors are not necessarily trained to test for the presence of lead paint.
- 4)a)i) Rather than a general description of depressurization for the blower door test, cite ASHRAE Standard 119. Also, contractors should take a base pressure reading before blower door testing.

- 4)a)v) MVG/BAS is no longer supportable. This passage should read "Compare CFM50 reading to MVG/BAS and note if home is already very tight or over-tight recommended ventilation rate per ASHRAE 62.2-2004."
- Add section 4)b)iii) as follows: Presence of exhaust fan in garage should be noted. If missing, the contractor should recommendation installation.

E. Inspection of Mechanical HVAC Systems

- 3)a)iii) ~~Check for proper slope and drainage of coil overflow pans and condensate drain lines~~ If AC unit is in, above, or adjacent to finished space, verify presence of secondary overflow pan. If pan is present, verify presence of adequate drain line or interlocking float disconnect switch.
- 3)b) Ductwork –
 - Add specific guidance on the presence of air handler or return ducts in garages. If present, these should be relocated or isolated in an airtight enclosure.
 - Determine if ducts are in chases or cavities open to the exterior, and if they can be brought inside the pressure boundary of the house. If brought inside, then no duct measurement is needed.
- 3)b) i & ii) It is safe to assume that duct work in existing homes is sufficiently leaky to include duct sealing in the scope of work; so measuring duct leakage should not be an absolute requirement in the assessment. Similarly we can make this assumption for airflow. If this recommendation to the work scope becomes automatic, the repair contractor would perform pre- and post-testing when doing the work. The worst downside would be that the pre-test finds no problem – but the time and cost to determine this would have been spent during the assessment anyway, so the homeowner would not suffer.
- 3)b) iv) Also check for signs of moisture and atypical conditions in locations where ducts are inaccessible.
- 3)b) v) This specification is less important than pressure balancing, which should test for a limit of 2.5 Pa across boundaries.
- 3)c)iii) Checking for and purging trapped air in hydronic radiators belongs in the scope of work, and should not be part of the assessment. The assessment can identify radiators and specify the check/purge for scope of work.
- 5) b) Change text to read: "Note presence and operability of powered attic or whole house exhaust fans, and inform homeowner of correct operation." ~~for potential to affect combustion appliance zone (CAZ) pressures; include in CAZ test, below.~~

F. ~~Health and Safety Tests and Inspections~~ Combustion Appliance Testing

General

- This section should be re-titled so that it more precisely describes what the home assessor will do. The vagaries of "health" are well beyond the professional skills of what an assessor is accredited to identify: they are not medical professionals but instead skilled in determining the proper function of houses and many of their systems.
- In general, the bulk of this section should be struck and replaced with a global reference to the BPI BA standard. This will allow for changes in the BA standard

without making parallel changes to the Guideline. Also, including specific page numbers for a BPI standard will be confusing when/if the standards change.

- There are multiple references to CO detectors, but no guideline on detector sensitivity, which should be made in reference to the BA standard. Also, CO detectors should be prohibited from placement inside mechanical rooms.
- 1)c)ii) and 1)d)vi The technician should *not* verify that the pressure relief valve is operable, since the only way to do that it to operate it which can create a leaky valve. Instead, the assessor should "Verify that the pressure valve is operable present, properly piped, and unobstructed."
- 1)e) Electric ovens should also be included. (Food accumulation in ovens can create CO.)
- 1)g) This section title should refer to not just to "~~Gas Pipe~~" but to all "Fuel Supply Leak Inspection"
- 2) ~~Mold and~~ Moisture Inspections. This section should not reference "Mold" in its title or elsewhere. The assessor will be looking for signs of moisture and conditions that can be harmful, but is not an expert in biological forms or processes. The title of the section should be "Moisture Inspections."
- 2)b) "Check basement for moisture damage and conditions that promote fungal growth ~~presence of mold~~ on basement floors, walls, etc. ..."
- 2)e) Strike "~~—mold will tend to grow where there is less light.~~" This suggests a cause and effect which is not direct.
- 4) Radon Test Recommendation – Before-and-after testing could lead to false damage claims. Because short term radon testing provides a snap shot, it is possible that the "after" reading could be higher than the "before" through no interaction with changes made to the house. Radon levels vary according to the season, snow cover, ground water fluctuations, etc. The 3-day test itself is subject to inadvertent tampering (e.g. – opening windows.) Also, it might also be erroneous to assume that tighter houses are more prone to radon pollution – reducing stack effect through tightening the building enclosure (and controlling pressure imbalances through duct tightening) can reduce the negative pressure across the foundation floor, leading to less driving force to draw soil gasses into the home. A year-long test after work is performed (or even if the homeowner decides not to have work done) is more useful and should be recommended wherever applicable. Or an alternative recommendation could be made to install a permanent radon monitor.

G. CHA Summary Report

- Add section 1)c), " Where a safer high-efficiency equipment option exists, inform the homeowner of its potential benefits and advantages, and recommend replacement."

P4 Home Performance with ENERGY STAR Certificate of Completion

General

- p.1 – Bullet #6 of Minimum Elements: Including an estimate of the home energy use after work implies 1) a level of certainty we don't have, and 2) a guarantee. We don't think this should be a required element.

- HPwES certificate – This should have a signature line for the program representative.
- Just because the specific scope of work is completed, does not mean that all the work needed in the home is done: there are likely to be other measures that the homeowner chose not to perform at this time. In light of this, perhaps the certificate should not be called a “Completion” document but rather something like "Certificate of Installed Measures."